farming or not, makes a passable shepherd in Van Diemen's Land. I might say something here on the importance of the Home Government encouraging, by all possible means, the establishment of extensive sheep farms in these colonies, inasmuch as every pound of wool exported from this colony gives rise to an equivalent value of manufacture at home; for we are British to the back-bone in our tastes, our habits, and our allegiance; and are desirous of remaining so as long as you will let us, and not play tricks with us, as you did with the American colonies, which you have lost."

The writer gives a long and very comprehensive list of the articles which a settler should take out with him. It is too long for insertion; the remarks, however, that follow it are worthy of attention.

"I don't pretend to give you an exact list of all the articles that it would be proper or advantageous for you to bring out with you; that must depend on your means and your particular views; but the articles which I have mentioned will give you a general idea of what is wanted, and will serve to suggest other things. For instance, if your means are sufficient to place you during the first year in a position, which other emigrants of less capital cannot attain for several or for many years; if you have capital to spare to build a good house at once, instead of waiting for some years before you can compass that desirable object, then, in such case, bring out with you all the furniture—the chairs, and tables, and sofas, and curtains, of a commodious and well-furnished house. By the bye, do not neglect to bring a couple of commodious tents, which you may pick up cheap in London second-hand. You may live delightfully in a tent for at least six months of the year; but take care they are double tents, to defend you from the rain. I read in the London newspapers of various projects of frame-houses; but I do not advise you to think of that expedient. The best house to build is a log house for a temporary habitation, and a stone house for a permanent one. Having said thus much about your preparations for emigrating, I will give you a little advice as to your passage on board ship; but first I must say a word about servants. Don't think of bringing out any servant either for domestic or for field purposes, in the expectation that they will remain with you—unless you give them the same high wages which are obtained by good free servants in the colony. Some have brought out ploughmen and sawyers, blacksmiths and carpenters, in the hope of making a sort of profit by their labour, at the low rate of English wages, to compensate for the speculation of bringing them out; and to ensure their services they have bound them to their service by regular legal indentures. But what has been almost invariably the result? As soon as they have arrived in the colony, and have ascertained the rate of wages, so far above the rate for which they bound themselves, they have become discontented, and have refused to work. I remember in one case at which I was present, when the master brought an indentured servant before a bench of magistrates for breach of his covenant, the refractory servant was committed to prison for a month, for refusing to work. But how did that help his master? Putting the man in prison was all very well as a vindication of the law, but of what use was the imprisonment to the master, or to anybody else? The man would not work a bit the more for it; and as to the example, it was totally useless in preventing other such servants from being affected by the same discontent—a discontent, I should say, almost unavoidable under the circumstances. As to female servants, they are so much in request, that if they are at all marriageable, you must not expect to keep them long, and if they are pretty or young, they are snapped up in a moment. The best thing you can do is to select some old crone, not past work, who is very ugly, and even then you must not count on keeping her for certain; or else bring out a married couple on whom you can depend, and make it worth their while to stay with you, and look after your property."

This work, unfortunately, does not contain any information touching the condition of the artisan in the colony, or the probable change of fortune to which an emigrant craftsman may look forward. We trust that ere long some work will appear that will enlighten us on that most interesting subject. It is, however, worthy of all confidence in matters that relate to emigration with a view to agriculture, and this no matter to which of the Australian settlements the emigrant may desire to proceed. Indeed,—so rapidly has society been developed in the more ancient dependencies,—it is more true of Adelaide and Leschenhault, than of Sydney and Van Diemen's Land. Whether it be taken up for purposes of amusement or instruction, it will be found valuable by those who shall peruse it.

NEW METHOD OF CONSTRUCTING WHARF WALLS WITHOUT THE AID OF COFFRE DAMS.

TO THE EDITOR.

Sir,—I have read with much satisfaction your observations on the Iron trade, and in furtherance, send you a suggestion for promoting relief.

The City have laid down lines for embanking the Thames, the subjoined sketch admits of the most economical, and at the same time most permanent means of effecting the same. To afford prompt relief, many thousand tons might be prepared, (although not required for years) as it would undergo little or no depreciation.

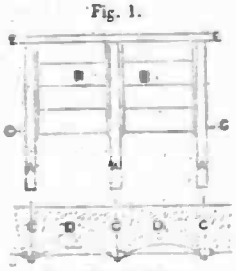
Your obedient servant,

ROBERT SIBLEY.

39, Great Ormond Street,
24th July, 1843.

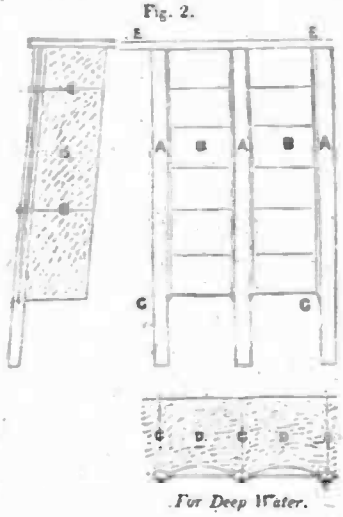
P.S. Your language is better fitted for public perusal, or I would have enlarged on the subject.

Fig. 1.



For Shallow Water.

Fig. 2.



For Deep Water.

REFERENCE.

A. A. Cast iron piles.
B. B. Cast iron plates.
C. C. Wrought iron tyes.
D. D. Concrete.
E. E. Granite Cap stone.
G. G. Ground line.

Fig. 1. Piles and plates 1 in. metal.
Fig. 2. Piles and plates 1½ in. metal.

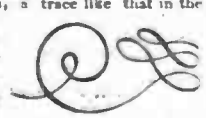
1st Example.—Island Lead Works, Limehouse.
2nd Example.—Fenning's Wharf, London Bridge.

THE CURVES OF FANCY EQUATED.

TO THE EDITOR.

Sir,—For some time past I have been engaged in no less a task than the formation of a new science, to which I have given a plain English name, "The curves of fancy equated." To invent a new science and christen it without the sanction or assistance of any learned society, may be considered rather presumptuous in me. However, as these learned bodies seldom or never undertake such tasks, I cannot any how be considered an intruder. I never heard of a learned society christening a curve, except the British Association for the Advancement of Science. I witnessed the ceremony, but did not stand as sponsor; that honour devolved upon some of the leading *paid* members of the society.

The design of this new science is to give equations to curves formed, or rather sketched, by fancy. Formerly, we could trace curves, find their lengths, areas enclosed, singular points, orders of contact, &c., from their equations, or determine the equations of certain curves or surfaces formed by known laws or under given restrictions. What we have just named may, at first sight, appear to involve that which we have termed "The curves of fancy equated;" from a little reflection, the difference will readily be seen: for example, suppose we sketch, or roughly form, a trace like that in the margin, and require an equation that will represent such a curve either partially or generally. This is the object of "The curves of fancy equated," which I think will readily be admitted to be entirely new. It may be necessary to note, as I intend to publish this subject piecemeal, I expect a few *jumpers-up-behind*, whom I shall leave to be chastised by your editorial whip.

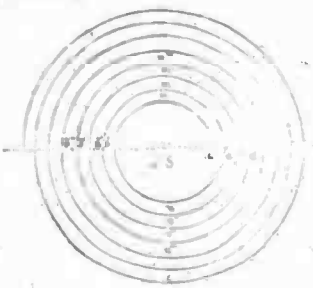


In the course of my investigations, I was obliged to have recourse to approximate forms in the first instance; these were chiefly composed of segments of circles approaching those of curvature at particular points. From the simplicity of their construction, many of them may be of use to the ornamental builder; I therefore send this portion of my labours for insertion in your valuable paper, which has filled up that which might not be improperly termed a chasm in our world of periodical publications.

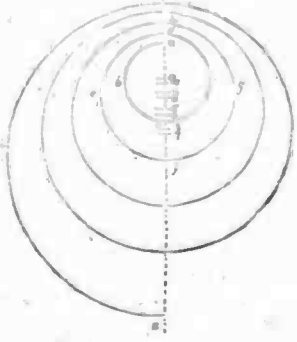
It may be necessary to add for the information of those not much skilled in the investigation of curves and their properties, that approximate forms composed of circular arcs do not exactly correspond, except at certain points, with the true curves which they represent; in fact, the smallest portion of one curve cannot be said to form part of another, however closely they may appear to coincide, except they be identically equal.—I am, Sir, your obedient servant,

OLIVER BYRNE, Mathematician,
Author of "The Doctrine of Proportion," &c.

PROBLEM I.—*From two centres to describe a spiral.*—Join $s\ s$, and produce it both ways. With s as a centre, describe the semicircle $a\ m\ b$, then with any other point b, describe the semicircle $b\ n\ a'$; again, with s as centre, describe the semicircle $a'\ m'\ b'$; with s again as centre, describe the semicircle $b'\ n'\ a''$, and so on by alternately changing the centres $s\ s$, the spiral $a\ m\ b\ n\ a'\ m'\ b'\ n'\ a''$, &c. may be traced.



PROBLEM II.—*To describe a spiral of eccentrical appearance.*—Draw the line A B. With the point marked 1, as centre, describe semicircle $a\ b\ c$; then with 2, as centre, describe semicircle $c\ d$; with 3, as centre, describe semicircle $d\ e\ f$; with 4, as centre, describe $f\ g\ h$; and so on with 5, 6, 7, and as centres the spiral $a\ b\ c\ d\ e\ f\ g$, &c. may be described with any amount of eccentrical appearance required.



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